

SEQUENCE LISTING

<110> Monsanto Company

<120> TRANSGENIC PLANTS CONTAINING ALTERED LEVELS OF STEROID COMPOUNDS

<130> MTC6783.1

<160> 33

<170> PatentIn version 3.0

<210> 1

<211> 585

<212> PRT

<213> Arabidopsis thaliana

<400> 1

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Leu Ser Thr Arg Arg Phe Thr Thr Gly Ala Thr Tyr Ile Arg Arg Trp
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Lys Ala Thr Ala Ala Gln Thr Leu Lys Leu Ser Ala Val Asn Ser Thr
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Val Met Met Lys Pro Ala Lys Ile Ala Leu Asp Gln Phe Ile Ala Ser
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Leu Phe Thr Phe Leu Leu Leu Tyr Ile Leu Arg Arg Ser Ser Asn Lys
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Asn Lys Lys Asn Arg Gly Leu Val Val Ser Gln Asn Asp Thr Val Ser
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Lys Asn Leu Glu Thr Glu Val Asp Ser Gly Thr Asp Val Ile Ile Val
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Gly Ala Gly Val Ala Gly Ser Ala Leu Ala His Thr Leu Gly Lys Glu
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Gly Arg Arg Val His Val Ile Glu Arg Asp Phe Ser Glu Gln Asp Arg
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Ile Val Gly Glu Leu Leu Gln Pro Gly Gly Tyr Leu Lys Leu Ile Glu
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Leu Gly Leu Glu Asp Cys Val Lys Lys Ile Asp Ala Gln Arg Val Leu
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Gly Tyr Val Leu Phe Lys Asp Gly Lys His Thr Lys Leu Ala Tyr Pro
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05885723 "062001"

098857E20601

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Leu Asn Pro Arg Pro Leu Ser Leu Val Leu His Phe Phe Ala Val Ala
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Ile Tyr Ala Val Cys Arg Leu Met Leu Pro Phe Pro Ser Ile Glu Ser
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Phe Trp Leu Gly Ala Arg Ile Ile Ser Ser Ala Ser Ser Ile Ile Phe
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Lys	Gly	Val	Ile	Lys	Gly	Val	Thr	Tyr	Lys	Asn	Ser	Ala	Gly	Glu	Glu	195	200		205
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Leu	Val	Ala	Ser	Thr	Asp	Glu	Ala	Lys	Glu	Ala	Met	Arg	Gln	Gly	Cys	420	425		430
Tyr	Asp	Tyr	Leu	Ser	Ser	Gly	Gly	Phe	Arg	Thr	Ser	Gly	Met	Met	Ala	435	440		445

Leu Leu Gly Gly Met Asn Pro Arg Pro Ile Ser Leu Ile Tyr His Leu
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Leu Ala Asp Thr Val Ala Glu Asp Gln Lys Asp Gly Ala Ala Asp Val
          35          40          45

Ile Ile Val Gly Ala Gly Val Gly Gly Ser Ala Leu Ala Tyr Ala Leu
50          55          60

Ala Lys Asp Gly Arg Arg Val His Val Ile Glu Arg Asp Met Arg Glu
65          70          75          80

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Gln	Gly	Val	Tyr	Asp	Tyr	Leu	Cys	Ser	Gly	Gly	Phe	Arg	Thr	Ser	Gly	420	425	430	
Met	Met	Ala	Leu	Leu	Gly	Gly	Met	Asn	Pro	Arg	Pro	Leu	Ser	Leu	Val	435	440	445	
Tyr	His	Leu	Cys	Ala	Ile	Thr	Leu	Ser	Ser	Ile	Gly	Gln	Leu	Leu	Ser	450	455	460	
Pro	Phe	Pro	Ser	Pro	Leu	Arg	Ile	Trp	His	Ser	Leu	Lys	Leu	Phe	Gly	465	470	475	480
Leu	Ala	Met	Lys	Met	Leu	Val	Pro	Asn	Leu	Lys	Ala	Glu	Gly	Val	Ser	485	490	495	
Gln	Met	Leu	Phe	Pro	Ala	Asn	Ala	Ala	Ala	Tyr	His	Lys	Ser	Tyr	Met	500	505	510	
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Phe Val Ala Phe Tyr Gly Phe Phe Val Lys Pro Lys Arg Asn Gly Leu
35 40 45
Arg His Asp Arg Lys Thr Val Ser Thr Val Thr Ser Asp Val Gly Ser
50 55 60
Val Asn Ile Thr Gly Asp Thr Val Ala Asp Val Ile Val Val Gly Ala
65 70 75 80
Gly Val Ala Gly Ser Ala Leu Ala Tyr Thr Leu Gly Lys Gly Lys Phe
85 90 95
Lys Arg Arg Val His Val Ile Glu Arg Asp Leu Ser Glu Pro Asp Arg
100 105 110
Ile Val Gly Glu Leu Leu Gln Pro Xaa Gly Tyr Leu Lys Leu Leu Glu
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<213> Arabidopsis thaliana

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Lys Thr Ser Val Val Pro Leu Pro Pro Val Leu Gln Ala Trp Pro Pro
          35          40          45

Phe Ile Gly Ser Leu Ile Arg Phe Met Lys Gly Pro Ile Val Leu Leu
50          55          60

Arg Glu Glu Tyr Pro Lys Leu Gly Ser Val Phe Thr Val Lys Leu Leu
65          70          75          80

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098523-062001

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Asn	Val	Pro	Thr	Phe	Gly	Pro	Gly	Val	Val	Phe	Asp	Val	Asp	Tyr	Pro	115	120	125
Val	Arg	Met	Glu	Gln	Phe	Arg	Phe	Phe	Ser	Ser	Ala	Leu	Lys	Asp	Tyr	130	135	140
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Asp	Lys	Gly	Met	Gln	Pro	Ile	Ser	Val	Ile	Phe	Pro	Lys	Leu	Pro	Ile	195	200	205
Pro	Ala	His	Asn	Cys	Arg	Asp	Arg	Ala	Arg	Gly	Lys	Ile	Ala	Lys	Ile	210	215	220
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Thr	Thr	Arg	Glu	Gly	Lys	Gln	Tyr	Glu	Ile	Pro	Lys	Gly	His	Ile	Val	355	360	365
Ala	Thr	Ser	Pro	Ala	Phe	Ala	Asn	Arg	Leu	Pro	His	Val	Tyr	Lys	Asp	370	375	380

Pro Glu Asn Phe Asp Pro Asp Arg Phe Ser Lys Glu Arg Glu Glu Asp
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Lys Ala Ala Gly Ser Cys Ser Tyr Ile Ser Leu Gly Ala Gly Arg His
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Cys His Leu Leu Arg Asn Phe Glu Leu Glu Leu Val Ser Pro Phe Pro
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098823062001

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Ala	Ala	Gly	Ala	Phe	Ser	Tyr	Ile	Ala	Phe	Gly	Gly	Gly	Arg	His	Gly	420	425	430	
Cys	Leu	Gly	Glu	Pro	Phe	Ala	Tyr	Leu	Gln	Ile	Lys	Ala	Ile	Trp	Ser	435	440	445	

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caatgctgtg aaatgccagt gggatacgtg cagattccgg tggggattgc ggggccgttg	420
ttgctgaacg ggcgggagta ctctgttcca atggcgacca cggaggggtg tttggtggcg	480
agcactaata gaggggtgtaa ggcgatttac ttgtcaggtg gggccaccag cgtcttggtg	540
aaggatggca tgacaagagc gcctgttgta agattcgcgt cggcgactag agccgcggag	600
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gcaaacaaag agtcgccagg atcaaactca aggctccttg ctgccatcgt agctggttca	1320
gttttggtg gtgagctctc cttgatgtct gccattgcag ctgggcagct tgtcaagagt	1380
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 <211> 476
 <212> PRT
 <213> Hevea brasiliensis

<400> 25

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Asn	Tyr	Leu	Ile	Asp	Glu	Asp	His	Arg	Leu	Val	Thr	Cys	Pro	Pro	Ala
			20					25					30		
Asn	Ile	Ser	Thr	Lys	Thr	Thr	Ile	Ile	Ala	Ala	Pro	Thr	Lys	Leu	Pro
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Thr	Ser	Glu	Pro	Leu	Ile	Ala	Pro	Leu	Val	Ser	Glu	Glu	Asp	Glu	Met
50						55					60				
Ile	Val	Asn	Ser	Val	Val	Asp	Gly	Lys	Ile	Pro	Ser	Tyr	Ser	Leu	Glu
65					70					75					80
Ser	Lys	Leu	Gly	Asp	Cys	Lys	Arg	Ala	Ala	Ala	Ile	Arg	Arg	Glu	Ala
				85					90					95	
Leu	Gln	Arg	Met	Thr	Arg	Arg	Ser	Leu	Glu	Gly	Leu	Pro	Val	Glu	Gly
			100					105					110		
Phe	Asp	Tyr	Glu	Ser	Ile	Leu	Gly	Gln	Cys	Cys	Glu	Met	Pro	Val	Gly
		115					120					125			
Tyr	Val	Gln	Ile	Pro	Val	Gly	Ile	Ala	Gly	Pro	Leu	Leu	Leu	Asn	Gly
		130				135					140				
Arg	Glu	Tyr	Ser	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala
145					150					155					160
Ser	Thr	Asn	Arg	Gly	Cys	Lys	Ala	Ile	Tyr	Leu	Ser	Gly	Gly	Ala	Thr
				165					170					175	
Ser	Val	Leu	Leu	Lys	Asp	Gly	Met	Thr	Arg	Ala	Pro	Val	Val	Arg	Phe
				180				185					190		
Ala	Ser	Ala	Thr	Arg	Ala	Ala	Glu	Leu	Lys	Phe	Phe	Leu	Glu	Asp	Pro
		195					200					205			
Asp	Asn	Phe	Asp	Thr	Leu	Ala	Val	Val	Phe	Asn	Lys	Ser	Ser	Arg	Phe
	210					215					220				
Ala	Arg	Leu	Gln	Gly	Ile	Lys	Cys	Ser	Ile	Ala	Gly	Lys	Asn	Leu	Tyr
225					230					235					240
Ile	Arg	Phe	Ser	Cys	Ser	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Val
				245					250					255	
Ser	Lys	Gly	Val	Gln	Asn	Val	Leu	Glu	Phe	Leu	Gln	Ser	Asp	Phe	Ser
			260					265					270		
Asp	Met	Asp	Val	Ile	Gly	Ile	Ser	Gly	Asn	Phe	Cys	Ser	Asp	Lys	Lys
		275					280					285			
Pro	Ala	Ala	Val	Asn	Trp	Ile	Glu	Gly	Arg	Gly	Lys	Ser	Val	Val	Cys
	290					295					300				
Glu	Ala	Ile	Ile	Lys	Glu	Glu	Val	Val	Lys	Lys	Val	Leu	Lys	Thr	Asn
305					310					315					320
Val	Ala	Ser	Leu	Val	Glu	Leu	Asn	Met	Leu	Lys	Asn	Leu	Ala	Gly	Ser
				325					330					335	
Ala	Val	Ala	Gly	Ala	Leu	Gly	Gly	Phe	Asn	Ala	His	Ala	Gly	Asn	Ile
			340					345					350		

Val	Ser	Ala	Ile	Phe	Ile	Ala	Thr	Gly	Gln	Asp	Pro	Ala	Gln	Asn	Val
355				360				365							
Glu	Ser	Ser	His	Cys	Ile	Thr	Met	Met	Glu	Ala	Val	Asn	Asp	Gly	Lys
370				375				380							
Asp	Leu	His	Ile	Ser	Val	Thr	Met	Pro	Ser	Ile	Glu	Val	Gly	Thr	Val
385				390				395				400			
Gly	Gly	Gly	Thr	Gln	Leu	Ala	Ser	Gln	Ser	Ala	Cys	Leu	Asn	Leu	Leu
				405				410				415			
Gly	Val	Lys	Gly	Ala	Asn	Lys	Glu	Ser	Pro	Gly	Ser	Asn	Ser	Arg	Leu
				420				425				430			
Leu	Ala	Ala	Ile	Val	Ala	Gly	Ser	Val	Leu	Ala	Gly	Glu	Leu	Ser	Leu
				435				440				445			
Met	Ser	Ala	Ile	Ala	Ala	Gly	Gln	Leu	Val	Lys	Ser	His	Met	Lys	Tyr
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attgccgcac ctaccaaatt gcctacctcg gaacccttaa ttgcaccctt agtctcggag	180
gaagacgaaa tgatcgtcaa ctccgctcgtg gatgggaaga taccctccta ttctctggag	240
tcgaagctcg gggactgcaa acgagcggct gcgattcgac gcgaggcttt gcagaggatg	300
acaaggaggt cgctggaagg cttgccagta gaagggttcg attacgagtc gatttttagga	360
caatgctgtg aaatgccagt gggatacgtg cagattccgg tggggattgc ggggccgttg	420
ttgctgaacg ggcgggagta ctctgttcca atggcgacca cggagggttg tttggtggcg	480
agcactaata gaggggtgtaa ggcgatttac ttgtcagggtg gggccaccag cgtcttggtg	540
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ttgaagttct tcttgaggga tcctgacaat tttgatacct tggccgtagt ttttaacaag	660
tccagtagat ttgcgaggct ccaaggcatt aaatgctcaa ttgctggtaa gaatctttat	720
ataagattca gctgcagcac tggcgatgca atggggatga acatggtttc taaaggggtt	780

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tcagttgttt gtgaggcaat tatcaaggaa gaggtggtga agaaggtggt gaaaaccaat 960
gtggcctccc tagtggagct taacatgctc aagaatcttg ctggttctgc tgttgctggt 1020
gctttgggtg gatttaatgc ccatgcaggc aacatcgtat ctgcaatctt tattgccact 1080
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gttttggtg gtgagctctc cttgatgtct gccattgcag ctgggcagct tgtcaagagt 1380
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<210> 27
<211> 476
<212> PRT
<213> Hevea brasiliensis

<400> 27

Met	Ala	Arg	Ala	Ser	His	Asp	Val	Trp	Asp	Leu	Glu	Asp	Thr	Asp	Pro
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Asn	Tyr	Leu	Ile	Asp	Glu	Asp	His	Arg	Leu	Val	Thr	Cys	Pro	Pro	Ala
			20					25					30		
Asn	Ile	Ser	Thr	Lys	Thr	Thr	Ile	Ile	Ala	Ala	Pro	Thr	Lys	Leu	Pro
		35					40					45			
Thr	Ser	Glu	Pro	Leu	Ile	Ala	Pro	Leu	Val	Ser	Glu	Glu	Asp	Glu	Met
		50				55					60				
Ile	Val	Asn	Ser	Val	Val	Asp	Gly	Lys	Ile	Pro	Ser	Tyr	Ser	Leu	Glu
65					70					75					80
Ser	Lys	Leu	Gly	Asp	Cys	Lys	Arg	Ala	Ala	Ala	Ile	Arg	Arg	Glu	Ala
				85					90					95	
Leu	Gln	Arg	Met	Thr	Arg	Arg	Ser	Leu	Glu	Gly	Leu	Pro	Val	Glu	Gly
			100					105					110		
Phe	Asp	Tyr	Glu	Ser	Ile	Leu	Gly	Gln	Cys	Cys	Glu	Met	Pro	Val	Gly
		115					120					125			
Tyr	Val	Gln	Ile	Pro	Val	Gly	Ile	Ala	Gly	Pro	Leu	Leu	Leu	Asn	Gly
		130				135					140				

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Arg	Glu	Tyr	Ser	Val	Pro	Met	Ala	Thr	Thr	Glu	Gly	Cys	Leu	Val	Ala	145	150	155	160
Ser	Thr	Asn	Arg	Gly	Cys	Lys	Ala	Ile	Tyr	Leu	Ser	Gly	Gly	Ala	Thr	165	170		175
Ser	Val	Leu	Leu	Lys	Asp	Gly	Met	Thr	Arg	Ala	Pro	Val	Val	Arg	Phe	180	185		190
Ala	Ser	Ala	Thr	Arg	Ala	Ala	Glu	Leu	Lys	Phe	Phe	Leu	Glu	Asp	Pro	195	200		205
Asp	Asn	Phe	Asp	Thr	Leu	Ala	Val	Val	Phe	Asn	Lys	Ser	Ser	Arg	Phe	210	215		220
Ala	Arg	Leu	Gln	Gly	Ile	Lys	Cys	Ser	Ile	Ala	Gly	Lys	Asn	Leu	Tyr	225	230		235
Ile	Arg	Phe	Ser	Cys	Ser	Thr	Gly	Asp	Ala	Met	Gly	Met	Asn	Met	Val	245	250		255
Ser	Lys	Gly	Val	Gln	Asn	Val	Leu	Glu	Phe	Leu	Gln	Ser	Asp	Phe	Ser	260	265		270
Asp	Met	Asp	Val	Ile	Gly	Ile	Ser	Gly	Asn	Phe	Cys	Ser	Asp	Lys	Lys	275	280		285
Pro	Ala	Ala	Val	Asn	Trp	Ile	Glu	Gly	Arg	Gly	Lys	Ser	Val	Val	Cys	290	295		300
Glu	Ala	Ile	Ile	Lys	Glu	Glu	Val	Val	Lys	Lys	Val	Leu	Lys	Thr	Asn	305	310		315
Val	Ala	Ser	Leu	Val	Glu	Leu	Asn	Met	Leu	Lys	Asn	Leu	Ala	Gly	Ser	325	330		335
Ala	Val	Ala	Gly	Ala	Leu	Gly	Gly	Phe	Asn	Ala	His	Ala	Gly	Asn	Ile	340	345		350
Val	Ser	Ala	Ile	Phe	Ile	Ala	Thr	Gly	Gln	Asp	Pro	Ala	Gln	Asn	Val	355	360		365
Glu	Ser	Ser	His	Cys	Ile	Thr	Met	Met	Glu	Ala	Val	Asn	Asp	Gly	Lys	370	375		380
Asp	Leu	His	Ile	Ser	Val	Thr	Met	Pro	Ser	Ile	Glu	Val	Gly	Thr	Val	385	390		395
Gly	Gly	Gly	Thr	Gln	Leu	Ala	Ser	Gln	Ser	Ala	Cys	Leu	Asn	Leu	Leu	405	410		415
Gly	Val	Lys	Gly	Ala	Asn	Lys	Glu	Ser	Pro	Gly	Ser	Asn	Ser	Arg	Leu	420	425		430
Leu	Ala	Ala	Ile	Val	Ala	Gly	Ser	Val	Leu	Ala	Gly	Glu	Leu	Ser	Leu	435	440		445

Met Ser Ala Ile Ala Ala Gly Gln Leu Val Lys Ser His Met Lys Tyr
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Asn Arg Ser Ala Lys Asp Met Ser Lys Ala Ala Ser
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<222> (1)..(22)
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22

<210> 29
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<223> Primer

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ggagctctta agaaaaggga cgacgc

26

<210> 30
<211> 26
<212> DNA
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<220>
<221> misc_feature
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<223> Primer

<400> 30
gtctctgaat cagaaatcct tctatc

26

<210> 31
<211> 25
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<220>

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<221> misc_feature
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25

<210> 32
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31

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ggagctcggt ttttaagaaa agggacgacg c

31

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